

We claim:

1. An image forming apparatus for forming images on a recording medium comprising:

a) a charge-retentive surface to receive an electrostatic latent image thereon;

b) a development component to apply a developer material to said charge-retentive surface to develop said electrostatic latent image to form a developed image on said charge-retentive surface;

c) a transfer component for transferring said developed image from said charge-retentive surface to an intermediate transfer component;

d) an intermediate transfer component for receiving said developed image from said transfer component and transferring said developed image to a transfix component; and

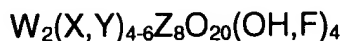
e) a transfix component to transfer the developed image from said intermediate transfer component to a copy substrate and to fix said developed image to said copy substrate, said transfix component comprising:

i) a transfix substrate, and thereover

ii) an outer transfix layer comprising a mica-type layered silicate and silicone elastomer, said silicone elastomer and said mica-type layered silicate together forming a delaminated nanocomposite, and

iii) a heating member associated with said transfix substrate.

2. The image forming apparatus of claim 1, wherein said mica-type silicate has a general formula:



where W is potassium; X is selected from the group consisting of aluminum, magnesium, iron and lithium, Y is selected from the group consisting of aluminum, magnesium, iron or lithium, and Z is selected from the group consisting of silicon, aluminum and mixtures thereof.

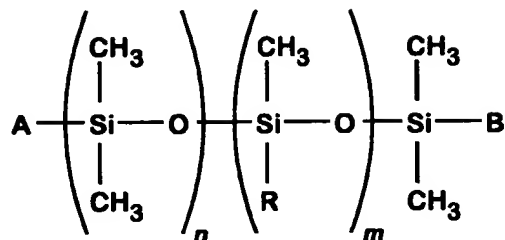
3. The image forming apparatus of claim 2, wherein said mica-type silicate is selected from the group consisting of muscovite, phlogopite, biotite, lepidolite, montmorillonite, bentonite, hectorite, vermiculite and saponite.

4. The image forming apparatus of claim 1, wherein said mica-type layered silicate is present in the outer transfix layer in an amount of from about 1 to about 50 weight percent based on the weight of the silicone elastomer.

5. The image forming apparatus of claim 4, wherein said mica-type layered silicate is present in the outer transfix layer in an amount of from about 5 to about 20 weight percent based on the weight of the silicone elastomer.

6. The image forming apparatus of claim 1, wherein said silicone elastomer is a polyorganosiloxane.

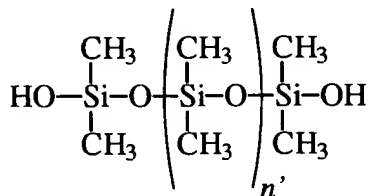
7. The image forming apparatus of claim 6, wherein said polyorganosiloxane has the following formula:



wherein R is selected from the group consisting of hydrogen, alkyl, alkoxy, alkenyl, and aryl; A is selected from the group consisting of alkyl, alkoxy, hydroxy and vinyl; B is selected from the group consisting of alkyl, alkoxy, hydroxy and vinyl; and  $0 < m/n < \text{about } 1$  and  $m+n > \text{about } 350$ .

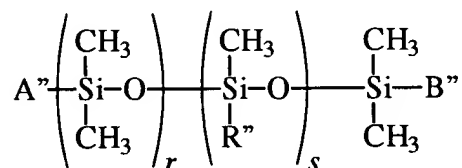
8. The image forming apparatus of claim 7, wherein A and B are vinyl.

9. The image forming apparatus of claim 6, wherein said polyorganosiloxane is a silanol-terminated polydimethylsiloxane having the following formula:



where  $n'$  is an integer of from about 350 to about 2700.

10. The image forming apparatus of claim 6, wherein said polyorganosiloxane is an addition-cured polyorganosiloxane having the following formula:



wherein s and r are integers and  $0 < s/r < 1$ ; A'' is selected from the group consisting of hydroxy, alkoxy, hydride, vinyl, and amine; B'' is selected from the group consisting of hydroxy, alkoxy, hydride, vinyl, and amine; and R'' is selected from the group consisting of alkyl, phenyl, and vinyl.

11. The image forming apparatus of claim 1, wherein said transfix substrate comprises a material selected from the group consisting of metal and fabric.

12. The image forming apparatus of claim 11, wherein said fabric material is selected from the group consisting of nonwoven cotton fabric, graphite fabric, fiberglass, woven polyimide, nonwoven polyimide, woven polyamide, nonwoven polyamide, polyester, aramids, polycarbonate, polyacryl, polystyrene, polyethylene, polypropylene, cellulose, polysulfone, polyxylene, polyacetal, and mixtures thereof.

13. The image forming apparatus of claim 1, wherein said transfix member further comprises a conformable intermediate layer positioned between said outer transfix layer and said transfix substrate.

14. The image forming apparatus of claim 13, wherein said conformable intermediate layer comprises a material selected from the group consisting of fabrics, fluoropolymers and silicone rubbers.

15. The image forming apparatus of claim 13, wherein said conformable intermediate layer has a thickness of from about 5 to about 75 mils.

16. The image forming apparatus of claim 1, wherein said outer transfix layer has a thickness of from about 0.1 to about 10 mils.

17. The image forming apparatus of claim 16, wherein said outer transfix layer has a thickness of from about 1 to about 5 mils.

18. The image forming apparatus of claim 13, wherein a first adhesive layer is positioned between said transfix substrate and said conformable intermediate layer.

19. The image forming apparatus of claim 1, wherein a second adhesive layer is positioned between said conformable intermediate layer and said outer transfix layer.

20. A transfix member comprising:

- a) a transfix substrate, and thereover
- b) a conformable intermediate layer comprising a polymeric material, and having thereon
- c) an outer transfix layer comprising a mica-type layered silicate and silicone elastomer, said silicone elastomer and said mica-type layered silicate together forming a delaminated nanocomposite, and
- d) a heating member associated with said transfix substrate.

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21. An image forming apparatus for forming images on a recording medium comprising:

a) a charge-retentive surface to receive an electrostatic latent image thereon;

b) a development component to apply a developer material to said charge-retentive surface to develop said electrostatic latent image to form a developed image on said charge-retentive surface;

c) a transfer component for transferring said developed image from said charge-retentive surface to an intermediate transfer component;

d) an intermediate transfer component for receiving said developed image from said transfer component and transferring said developed image to a transfix component; and

e) a transfix component to transfer the developed image from said intermediate transfer component to a copy substrate and to fix said developed image to said copy substrate, said transfix component comprising:

- i) a transfix substrate comprising a material selected from the group consisting of metal and fabric, and thereover
- ii) a conformable intermediate layer comprising a material selected from the group consisting of fabrics, fluoropolymers and silicone rubber materials, and having thereon
- iii) an outer transfix layer comprising a mica-type layered silicate and silicone elastomer, said silicone elastomer and said mica-type layered silicate together forming a delaminated nanocomposite, and
- iv) a heating member associated with said transfix substrate.